PART I: Getting Started

Chapter 1. The Improvement Kata Pattern
Chapter 2. Guidelines for Practicing the Improvement Kata and Coaching Kata
Chapter 3. Roles and Structure for Daily Practice
Chapter 1

THE IMPROVEMENT KATA PATTERN
This chapter goes over the improvement kata model

The improvement kata pattern (a scientific approach)

This is the scientific pattern of thinking and acting we’re trying to practice & learn

There are also starter practice routines for each step of the Improvement Kata, to help you learn its pattern of thinking and acting.

The coaching kata is a starter practice routine, for learning how to teach the Improvement Kata pattern.

The practice routines are covered in part II and part III of this handbook.
THE IMPROVEMENT KATA PATTERN MODELS THE CREATIVE PROCESS

The Improvement Kata is a model of an effective, universal human pattern for improving, adapting and innovating.

The pattern represented by the Improvement Kata model has probably been around for as long as humans have been around.

Scientists & entrepreneurs use it every day.

However, this pattern is usually not the natural or default way that adults think and act. It’s a learned skill.
THE IMPROVEMENT KATA PATTERN

The Improvement Kata is a 4-step pattern you practice to make systematic, scientific, creative striving a habit, which makes you more effective at achieving challenging goals in complex, dynamic conditions.
HERE ARE THE STEPS OF THE IMPROVEMENT KATA, IN SEQUENCE

1. Understand the Direction
   - What challenge are we striving to meet?

2. Grasp the Current Condition
   - What is the current way of operating?

3. Establish the Next Target Condition
   - What way of operating do we want to have next?

4. Iterate Toward the Target Condition
   - A step-by-step discovery process between where we are and where we want to be next.
HOW WE TEND TO REACT TO A PROBLEM OR HANDLE A GOAL

Whether in business, politics or daily life, we often think the best way is to deliberate over the correct answers and arrive at a consensus. (E.g., “Let’s have a meeting.”)

Unfortunately this unsystematic and unscientific approach is useful only in simple cases where the same path has been traveled before. It’s not a good way of tapping our human learning capability and handling more complex and dynamic situations. It often leads to ineffective responses.

Why the *deliberating* approach often fails in situations that are complex, dynamic or new:

--> We’re debating from inside our current threshold of knowledge. You don’t know what you don’t yet know.

--> Our neural mechanisms are tuned to focus on the immediate surface aspects of situations.

--> Our brain tries to make sense of unfamiliar information by automatically filling in the blanks.

--> Complexity & unpredictability overwhelm our brain’s processing resources.

--> We tend to state untested assumptions as facts.

**IT’S UNSCIENTIFIC** Deliberating over answers beyond our knowledge threshold is flying blind. There’s a grey zone between where you are and where you want to be next, and the path can’t be determined in advance by logic and reason. You need to experiment. Scientists are constantly adding to knowledge.

**IT’S BIASED** We don’t realize how extensively our unconscious predispositions, natural mental shortcuts and beliefs influence how we see, think and react. The brain is a great servant but a poor master.

**IT’S UNSYSTEMATIC** Stabbing at problems in the hope that something will work is not a methodical procedure.

**IT’S UNCREATIVE** If you’re just reacting to problems, rather than proactively striving for something, entropy wins.

There is a more effective way of thinking and acting, but it takes practice!
Let’s take a closer look at the four steps of the Improvement Kata pattern.

The illustrations on pages 13-18 and 20-21 are based on illustrations by Bill Costantino.
THE FOUR-STEP IMPROVEMENT KATA PATTERN HAS TWO PHASES: A PLANNING PHASE AND AN EXECUTING PHASE

Note, however, that “planning” in this case is different from what you might think of as planning. It’s not about just making an action plan. Gaining the perspective and understanding that the first three ‘planning’ steps of the Improvement Kata provide is a foundation for the ‘executing’ phase. One of the most common mistakes is trying to get into the Executing phase too soon; too hastily moving ahead based on preconceptions instead of taking time to analyze and learn more about the situation.
THE PLANNING PHASE: GOING SLOW TO THEN BE FAST & FOCUSED

Many teams quickly get into implementation action, for a supposed time savings. But in such cases the team’s effectiveness often follows the dotted red line in the graph below. In contrast, the Improvement Kata approach looks more like the blue line in the graph.

The Planning phase of the Improvement Kata involves (a) getting some clarity about the overarching challenge, (b) digging deep to better understand the current condition and then (c) establishing an appropriate next goal. This helps move you more comfortably into the zone of uncertainty where you apply your creativity by viewing the steps you take as experiments from which you learn.
THE IMPROVEMENT KATA PATTERN IS NESTED

Each step of the Improvement Kata pattern gets ‘framed’ within the context of the previous step. This framing effect is an integral part of effective problem solving.
The pattern of the Improvement Kata connects the levels of an organization. **STEP 1** of the Improvement Kata model ("Understand the Direction") entails understanding the Target Condition from the **level above you**. (Ultimately this is linked to a high-level strategic objective or challenge.) **STEP 3** of the Improvement Kata involves defining the next Target Condition **at your level**, in the direction that was set in the first step.
STEP 1: UNDERSTAND THE DIRECTION. A challenge is set, beginning at the organization or value-stream level. This overarching challenge is a strategic differentiator that relates to better serving the customer, and may come from a future-state value stream map. It provides an overarching objective and rallying point for individual process improvement efforts inside the organization.

The challenge at your process is the target condition from the level above you. So the overarching challenge gets broken into successively smaller elements as you move down the organization.
STEP 2: GRASP THE CURRENT CONDITION. Once the direction coming from the level above you is understood, study the current condition of your focus process in detail following the steps of the Process Analysis Kata, which helps you see beyond your preconceptions as you analyze a process. The results of this analysis are an input into defining the next Target Condition, and represent your Current Knowledge Threshold about the work process you’re looking at.
STEP 3: ESTABLISH THE NEXT TARGET CONDITION. The purpose of studying the current condition is to obtain the facts and data you need in order to establish a descriptive and measureable target condition at your level, in the direction of the challenge.

The target condition lies outside your current knowledge threshold and has a specified achieve-by date that's between 1 week - 3 months out. The target condition describes in some detail how you would like the focus process to be functioning on that achieve-by date. Once you have a target condition you begin to see Obstacles to achieving it, which are noted in the Obstacles Parking Lot.
NOW THERE IS THE GREY ZONE. You don’t know exactly how you’re going to get to the target condition by its specified achieve-by date. The grey zone is a learning zone.
STEP 4: ITERATE TOWARD THE NEXT TARGET CONDITION. Two daily routines are used here: The PDCA Kata (rapid experimenting) by the Learner, and the Coaching-Cycle Kata (Coach).

More obstacles appear in this phase of the Improvement Kata, due to the learning via experiments. Many obstacles are not visible in the planning phase. The team works on one obstacle at a time. You’re looking for the most direct path through the field of obstacles to the next target condition, which won’t be a straight line. You’re in a mode of rapid learning and discovery, adjusting your course based on facts & data gained through experimenting. The threshold of knowledge moves with each experiment.
THERE’S NO NEED TO WORK ON EVERY POSSIBLE OBSTACLE. You only need to overcome those obstacles that you find are preventing the process from operating in a way consistent with the next target condition. From each experiment you gain new information and adjust your next step accordingly, to iteratively find your way to the target condition by the achieve-by date. The obstacles parking lot is continually updated, revealing how flawed our preconceptions can be.
WHAT CAN WE IMPROVE? versus WHAT DO WE NEED TO IMPROVE?

Simply asking people, “What can we improve?” is not an effective way of continuously improving, generating teamwork and empowering people:

- Everyone’s viewpoint is naturally limited and biased
- We quickly get overwhelmed with diverse action items going in different directions
- There’s only limited time available each day for working on improvement

With the Improvement Kata a team instead focuses on what it needs to do to improve. This involves working on only those obstacles that the team finds are actually preventing the team from moving from its current condition to the next target condition.

Tackling the specific obstacles to a defined target condition is a great framework for bringing everyone’s ideas into play!

Our human ingenuity is activated and channeled when we operate with boundaries and limits.
NOW YOU ARE HERE. There is a new threshold of knowledge and a new current condition. And the Learner has gotten more skillful in applying the Improvement Kata pattern.
REPEAT THE PATTERN. Once the target condition is achieved or its achieve-by date is reached, the steps of the Improvement Kata are repeated. Before that, however, the Learner and Coach reflect on what was learned in the last pass through the Improvement Kata. The pattern of the Improvement Kata then repeats as the Learner sets and then strives to achieve the next target condition toward the overarching challenge. It takes a series of target conditions to reach the challenge, but they are set one after another since you don’t know in advance what the all necessary target conditions will be.
SUMMARY

Planning Phase

1. Understand the Direction
2. Grasp the Current Condition
3. Establish the Next Target Condition

Executing Phase

- Iterate Toward the Target Condition

At Target Condition or TC Date?

Diagram by Håkan Forss & Mike Rother
THE IMPROVEMENT KATA IS A META SKILL

It’s working on how you think

Every organization has work routines. The pattern of the Improvement Kata is a different and particularly powerful routine because it’s a *meta skill*. It’s a "meta-habit" that aims to change your mental operating system so your human capabilities come to greater fruition.

To understand this, separate **WHAT** you’re working on from **HOW** you’re working on it. The Improvement Kata focuses on the HOW. That is, the Improvement Kata is a content-free pattern for **how** to go about improving, adapting and innovating.

Skills are usually domain-specific. You don't learn to play baseball by practicing soccer. But the pattern of the Improvement Kata is a way of working toward any objective. Practicing the scientific pattern of the Improvement Kata develops mindset and habits for achieving challenging goals. It creates a change in your organization’s culture that facilitates continuous improvement.
IT’S A SYSTEMATIC, SCIENTIFIC APPROACH

Like any scientist, one of the few things we can *actually know* is the method we use. It’s impossible to make completely accurate predictions about the future, especially in complex, interconnected systems. But with the pattern of the Improvement Kata you have a universal approach for navigating that territory.
The Improvement Kata gives you a way of having fewer negative emotions and more confidence and motivation when you navigate unclear territory. “I’ve never done that before, but I know how to figure it out and find the way.” It helps you experience uncertainty more as an opportunity.
THE PATTERN OF THE IMPROVEMENT KATA PUTS YOU ON A JOURNEY OF PRACTICE AND DISCOVERY

We are here — Obstacles — Unclear Territory — We want to be here

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The Improvement Kata Pattern
THE CHAIN REACTION WE’RE LOOKING FOR
Practicing the scientific pattern and routines of the Improvement Kata moves people from a predictable-zone mindset to an exploratory mindset

<table>
<thead>
<tr>
<th>Increased Skill</th>
<th>Self Efficacy</th>
<th>Openness to Challenges</th>
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</thead>
<tbody>
<tr>
<td>When teams practice the scientific pattern of the Improvement Kata they become more skillful and competent at meeting challenges...</td>
<td>As a result, they grow more comfortable with unpredictable paths</td>
<td>Which allows them to be more open to new challenges!</td>
</tr>
<tr>
<td>... because they learn to work iteratively and scientifically.</td>
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Self-Efficacy = The belief that you can master a situation

Self-Efficacy develops *along the way* through personal experience. Self-Efficacy is learned!
THE IMPROVEMENT KATA PATTERN IS USED AT ALL LEVELS OF AN ORGANIZATION

It’s a way of thinking. The content is different at each level, but the pattern is the same.

The Improvement Kata Pattern is used at all levels of an organization. It’s a way of thinking. The content is different at each level, but the pattern is the same.
THE IMPROVEMENT KATA IS ABOUT STRIVING FOR A NEW STATE, NOT JUST REACTING TO PROBLEMS

<table>
<thead>
<tr>
<th>Troubleshooting</th>
<th>Proactive Striving</th>
</tr>
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<tbody>
<tr>
<td>• Reacting to problems. You have to do this because problems happen, but it’s not enough for competitiveness.</td>
<td>• A step-by-step process aimed at a desired, new target condition. Each step is taken relative to a hypothesis (prediction), and what you learn from that step influences the next step.</td>
</tr>
<tr>
<td>• Reacting to improvement opportunities someone sees.</td>
<td></td>
</tr>
</tbody>
</table>

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CONTINUOUS IMPROVEMENT REQUIRES PROACTIVE STRIVING!

Thriving in unpredictable, competitive circumstances involves systematically striving toward something, not just reacting to problems. Reacting to problems (“troubleshooting”) is necessary, but alone is not sufficient for sustained competitiveness.

To achieve continuous improvement, adaptation and innovation a portion of everyone’s workday should involve striving toward the next challenge and target condition.

Reacting & Troubleshooting

Striving brings you to knowledge thresholds and forces you to learn & adapt

The Workday

Striving mostly means trying to maintain

Note: The striving activity described in this guide only takes up a small portion (a slice) of each day, and the individual steps can be small.
THE ACTION OF INNOVATION
Meeting a challenge involves lots of small steps

We like to talk about our outcomes, our inventions, and tend to overlook the day-to-day enterprise of the steps that get us there; the successive target conditions and all that iteration.

Unlike what you may think, the action of innovation is the day-to-day work of iterating toward a challenging goal.

When you realize that progress arises from accumulation of steps, often across the organization, it makes great sense to develop the capability of people in the organization to do focused, systematic continuous improvement on their processes.
WHERE DOES THE IMPROVEMENT KATA PATTERN COME FROM?

The research that led to the book Toyota Kata ran from 2004-2009. The objective was to gain a deeper understanding of how Toyota manages people in order to achieve continuous improvement and adaptation, and what it will take to develop that in non-Toyota organizations. The research was driven by these two questions:

1. What are the unseen managerial routines and thinking that lie behind Toyota's success with continuous improvement and adaptation?

2. How can other companies develop similar routines and thinking in their organizations?

There is a repeating pattern of thinking and behavior in Toyota managers' approach, that is different from the prevailing Western command-and-control managerial routines. Each Toyota manager has their own style of course, but if you study it enough a common pattern of thinking and acting emerges, which is evident at all levels at Toyota. I depicted the pattern of thinking and behavior with a four-step model, which I named the “Improvement Kata” after noticing a connection between Toyota's management approach and the concept of Kata (practice routines and "way of doing things") in Japanese culture.

The Improvement Kata pattern that distilled out of our investigations is actually similar to other models of the human iterative, creative, scientific process, such as systems thinking, critical thinking, learning organization, design thinking, creative thinking, solution focused practice, preferred futuring, skills of inquiry, evidence-based learning, and so on.
IF YOU’RE INTO “LEAN”
The Improvement Kata & Coaching Kata are the less visible part of Lean

If you teach Lean solutions without also teaching the Improvement Kata routine, you’re unlikely to develop the skill and disposition for day-to-day continuous improvement that characterize Toyota and Lean.

**Visible Aspect of Lean**

- Lean solutions (tools, techniques and principles) to improve quality, cost, delivery

**Less Visible Aspect**

- The Improvement Kata routine of thinking & acting
- Managers as coaches for practicing that routine
The Improvement Kata pattern is the fundamental way of working at Toyota, and there are several Toyota practices through which this pattern gets utilized and reinforced. The research found the Improvement Kata pattern underlying all of them, and ultimately it is taught to everyone at Toyota.

It’s not surprising that the pattern that Toyota’s managers teach matches models of the scientific creative process.

**Toyota Practices:**

- Daily Management
- Daily Problem Solving
- “Toyota Business Practices”
- A3
- Improvement Events
- Standard Work
- Quality Circles

What’s behind all of these

The Improvement Kata Pattern
TRYING TO COPY TOYOTA’S VISIBLE TOOLS AND ACTIVITIES DOESN’T WORK

At Toyota the Improvement Kata pattern is lodged in its people; specifically in its seasoned coaches who guide Learners in practicing and learning this pattern of thinking and acting.

This means copying visible Toyota activities – such as A3s – without bringing along the enabling coaching environment is unlikely to change much. Mindset change and skill development come from correct & frequent practice of a pattern, not just from using Toyota-style tools and activities.

Teams and organizations outside Toyota would do well to begin with structured IK & CK routines for Learners and Coaches to practice, like those in this Handbook, and then over time develop their own activities and tools.
HOW DO THE LEAN TOOLS AND PRACTICES FIT IN?

Lean tools, techniques and principles to improve quality, cost and delivery are as useful and important as ever, but they should be applied within the context of the Improvement Kata. *What are you trying to achieve?*

Lean tools are brought in (pulled) situationally as needed. The mindset you’re trying to develop is one of working iteratively to discover and do what is necessary to achieve a goal, as opposed to a mindset of pushing and implementing pre-defined solutions or tools.

For example, if a kanban system will help a team achieve its target condition, then at that point kanban is brought in and utilized. Teams stay focused on their next target condition.

This approach makes our efforts more meaningful and successful. It teaches us more scientific & effective habits of thinking and acting.
Don’t just draw a current-state map, highlight problems and go after them. Draw a future-state map of how you want the value stream to flow, and then use the pattern of the Improvement Kata to get the value stream to function that way.

Current State VS Map

Future State VS Map

Using the Improvement Kata to systematically move toward your future-state design

CC = Current Condition, TC = Target Condition